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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,404	12/21/2000	Kenneth D. Ray	MSI-704US	1131

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EXAMINER

CASIANO, ANGEL L

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 08/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/745,404

Applicant(s)

RAY ET AL.

Examiner

Angel L. Casiano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-28, 30, 31 and 33-35 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-8, 11, 13, 36, 37 and 40 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5, 9, 10, 12, 29, 32, 38 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

1. The present Office Action is in response to application filed 21 December 2000.
2. Claims 1-40 are pending in the application.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "repetition of initialization phase 100" (see Fig. 2). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 29 and 32 are objected to because of the following informalities:
 - Claim 29, insert "of" after "set" (see line 8).
 - Claim 32, delete "," (see line 10)

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 6-8, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson [US 6,591,310 B1] in view of Wilson et al. [US 6,260,084 B1].

Regarding claim 1, Johnson teaches a method (see Abstract; col. 1, line 20). The cited method includes providing a configuration descriptor (see col. 4, lines 61-66) of a USB device (see col. 13, lines 15-17). Although Johnson does not cite “a set of non-standard class codes”, it does teach a descriptor for any class (see col. 5, lines 36-40) and associated code (see col. 5, line 42). In addition, in response to receiving a device request, the configuration descriptor is sent to a requestor (see col. 6, lines 1-3). However, although Johnson does not teach “non-standard class codes” explicitly, Wilson et al. teaches class definition for USB communication (see col. 1, lines 18-23). Accordingly, Johnson teaches providing a descriptor when a condition is not met (see col. 5, lines 17-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the disclosure by Johnson suggests non-standard class codes, since it cites “a corresponding request for any class” (see col. 5, lines 39-40).

As for claim 4, Johnson teaches a descriptor including a control function section (inherent, see col. 19, lines 1-10) corresponding to a function for a USB device (see col. 13, lines 15-17; col. 19, line 18).

In consideration of claim 6, it constitutes the computer-readable media containing the program for the method in claim 1. This claim is therefore rejected under the same rationale.

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Regarding claims 7 and 8, Johnson teaches a method (see Abstract; col. 1, line 20). The cited method includes providing a descriptor (see col. 4, lines 61-66) of a USB device (see col. 13, lines 15-17) by a device request (see col. 6, lines 1-3). Johnson also includes determining and loading compatible device drivers based on indications from the descriptor (see col. 13, lines 37-39, 50-51, 60-64). Although Johnson does not cite “a set of non-standard class codes”, it does teach a descriptor for any class (see col. 5, lines 36-40) and associated code (see col. 5, line 42). In addition, in response to receiving a device request, the configuration descriptor is sent to a requestor (see col. 6, lines 1-3). However, although Johnson does not teach “non-standard class codes” explicitly, Wilson et al. teaches class definition for USB communication (see col. 1, lines 18-23). Accordingly, Johnson teaches providing a descriptor when a condition is not met (see col. 5, lines 17-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the disclosure by Johnson suggests non-standard class codes, since it cites “a corresponding request for any class” (see col. 5, lines 39-40).

As for claim 11, Johnson teaches a descriptor including a control function section (inherent, see col. 19, lines 1-10) corresponding to a function for a USB device (see col. 13, lines 15-17; col. 19, line 18).

In consideration of claim 13, it constitutes the computer-readable media containing the program for the method in claim 7. This claim is therefore rejected under the same rationale.

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7. Claims 36-37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klingman [US 6,219,736 B1].

Regarding claim 36, Klingman teaches a data structure (see col. 2, line 58). The cited art also teaches a first data field (see col. 13, lines 43-46) as well as a count (see col. 13, lines 9-11, 57-62) indicating USB control functions for which mappings (inherent, see col. 11, lines 49, 50, 52, 59; col. 18, lines 28-31) exist. Additional fields are found in the reference, which include data corresponding to a function for a USB device (inherent, see col. 14, lines 27-29, 39-45; col. 26, lines 5-6). Klingman, however, does not teach a computer-readable medium storing the data structure. Nonetheless, the cited art teaches a method and apparatus (see col. 6, line 55). It is well known in the art to implement a method in a computer-readable medium. Accordingly, one of ordinary skill in the art at the time the invention was made would have motivated to implement the cited data structure in a computer-readable medium, since it is a common practice in the art to codify a method in such a way.

As for claim 37, Klingman teaches a first data field (see col. 2, line 60) including a descriptor length indication (see col. 2, line 64). The cited reference, however, does not expose a descriptor version indication. Nonetheless, it does teach a “descriptor endpoint type” (see col. 2, line 64), “Vendor ID”, and “Product ID” (see Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made that “type”, “vendor”, and “product” information would indicate “version” information.

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As for claim 40, Klingman teaches a data field including a control function length indication (see col. 3, lines 28-30). However, it does not teach a total number of interfaces indication to generate a control function or an interface number. Nonetheless, it does teach an interface indicator (see col. 4, line 62). The interface descriptor is associated with the setup transactions, which constitute control function (see col. 3, line 46; col. 4, line 65). It would have been obvious to one of ordinary skill in the art at the time the invention was made that Klingman teaches interface information generating control functions.

Allowable Subject Matter

8. Claims 14-28, 30-31, and 33-35 are allowed.
9. Claims 2-3, 5, 9-10, 12, and 38-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest, alone or in combination a method providing an extended configuration descriptor in firmware of a USB device including a set of non-standard class codes, including class codes or subclass codes that are not defined by the USB DWG. It is not found a method including receiving a "GET_DESCRIPTOR" device request that specifies a predetermined index and receiving in response, an extended configuration descriptor that corresponds in the USB device specifying a non-standard class code. The computer-readable media corresponding to the cited method are not found in the prior art. Furthermore, the prior art

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does not teach or suggest a USB device including a processor, port, memory, control program module, and extended configuration descriptor, which includes information that identifies a set of non-standard compatible ID's (class codes and/or subclass codes not defined by the USB DWG) corresponding to the USB device.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Chew [US 6,389,560 B1] teaches a system and method for testing the conformance of a USB system to a set of predefined USB specifications.
- Watson et al. [US 6,218,969 B1] teaches USB to parallel bus signal converter and method.
- Kou [US 6,085,265] discloses a system and method for establishing communication between a host computer and a peripheral device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 703-305-8301. The examiner can normally be reached on 800-500pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7239 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

alc
July 31, 2003



JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100